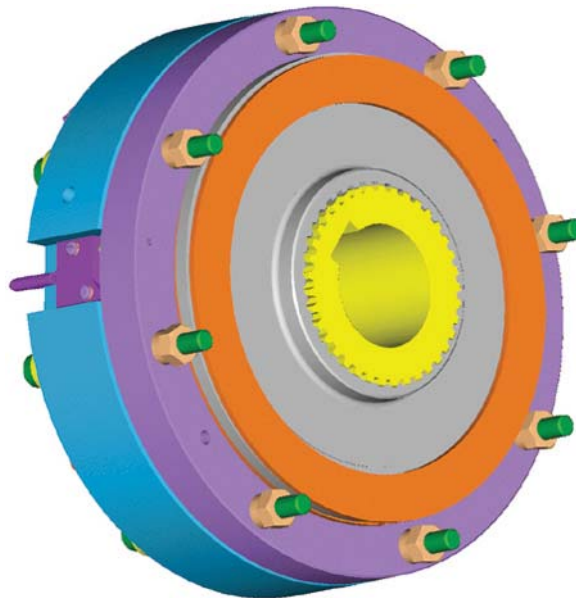


SM347gb - rev 01/06

## Electrically Released Brakes ERS VAR08 SZ 800/800

Warner Electric Part Numbers 1 12 106600, 1 12 106601  
and 1 12 106664



EC type certificate ABV 603/1  
According to drawing **1 12 106603**



We: **WARNER ELECTRIC EUROPE**, 7, rue Champfleu, B.P. 11095, F-49182 St Barthélemy d'Anjou Cedex  
 declare that the brakes made in our factory from St Barthélemy d'Anjou,

and hereafter designated : **ERS VAR08 SZ800/800 Warner Electric Part Numbers 1 12 106600, 1 12 106601 and 1 12 106664**

Fully comply with directive 95/16/EC on Lifts and are intended for incorporation into an installation or for assembly with other equipment, with the aim of constituting a machine subject to the application of directive 98/37/EC and the directive on Electromagnetic Compatibility 89/336 (modified).

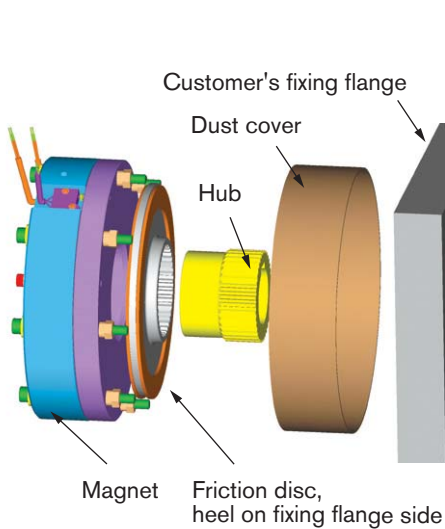
Compliance with the basic requirements of the Low Voltage Directive 73/23 (modified) is guaranteed by our full compliance with the following standards: NFC 79300 and VDE 0580/8.65.

Drawn up in St Barthélemy d'Anjou, July 2002  
 E. PRAT, General Managing Director

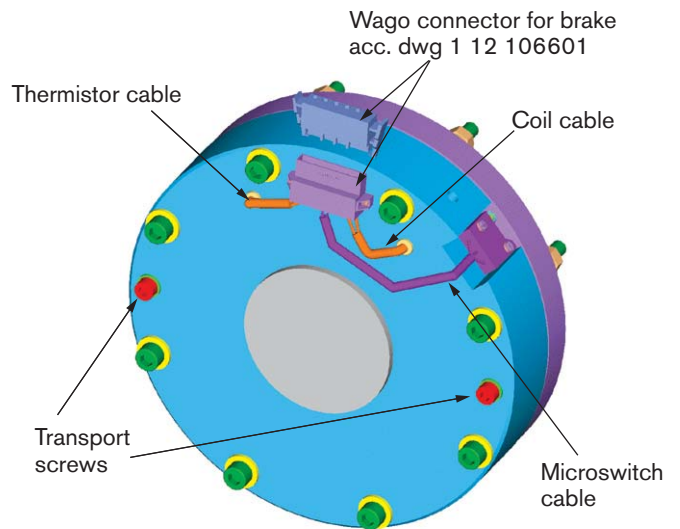
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### 1 Technical specifications



**Fig. 1**



**Fig. 2**

**Table 1**

Warner Electric Part Number		1 12 106600 / 1 12 106664	1 12 106601
Electrical connections		Free end	Wago connector (see Fig. 5)
Nominal torque	Nm	800	800
Maximum speed	min <sup>-1</sup>	250	250
Nominal airgap	mm	0,3 ±0,05	0,3 ±0,05
Maximum airgap after wear	mm	0,7	0,7
Overexcitation	VDC	180	207
Holding voltage	VDC	90	103,5
Resistance	Ω	142	142
Power (inrush)	W	229	302
Power (holding)	W	57	76
Cyclic duration factor	%	60%	60%
Weight	kg	33	33



Symbol designating an action that might damage the brake



Symbol designating an action that might be dangerous to human safety



Symbol designating an electrical action that might be dangerous to human safety

## 2 Precautions and restrictions on use

### 2.1 Restrictions on use



For the brake to comply with directive 95 / 16 / EC, the integrator must observe the general conditions for installations and use as defined in the EC type certificate ref. ABV 603/1 of 12th Feb. 2003 drawn up by the TÜV Munich, including the mandatory use of a speed limiting device, in compliance with EN 81-1 paragraphs 9.9 and 9.10.10.



This brake is designed to work in dry conditions. Friction faces must be kept completely clean of any oil, grease or abrasive dust.



If maximum rotation speeds are exceeded, the guarantee is no longer valid.



This brake may only be used in a " horizontal axis ". The customer must be careful not to alter the factory-set airgap, this is in order to ensure the brakes may be properly released.



This brake is designed for a maximum ambient temperature of 40°C (coating class 155°C). The maximum temperature in continual use is 100°C.



This brake is designed for static applications. Any dynamic braking is restricted to emergency braking and test braking. This brake can in no way replace the safety braking system used during lift descent.

### 2.2 Precautions and safety measures



During maintenance, make sure that the mechanism no torque to transmit, and that there's no danger of it accidentally starting up. All interventions have to be made by qualified personnel owning this manual.



Any modification made to the brake without the express authorisation of a representative of Warner Electric, in the same way than any use out of the contractual specifications accepted by "Warner Electric", will result in the warranty being invalidated and Warner Electric will no longer be liable in any way with regard to conformity.



When switching on DC-side the coil must be protected against voltage peaks.

## 3 Installation

### 3.1 Transport / storage

This brake is delivered in standard packaging that will keep it intact for a period of 6 months during ground, air or sea transport towards neighbouring continents (without crossing the tropics).

### 3.2 Handling



Avoid any impact to the brake so that its performance is not impaired.



When handling, use the handling holes intended for this purpose (see fig. 2).



Never lift the brake by its cables.

### 3.3 Installation



This brake is designed to work in dry conditions. Friction faces must be kept completely clean of any oil, grease or abrasive dust.



#### Specifications for the customer's friction face :

Material : Steel (150 to 250 HV) or cast iron  
Roughness  $\leq$  Ra 3,2  
Protection : Phosphatizing (dry) or nitriding

#### **Geometric tolerances :**

	0,1	Customer's shaft axis
	0,1	

The brake is delivered pre-assembled with pre-set microswitches and airgaps . The fixing screws and the hub are supplied separately,

- Retighten the 2 transport screws CHc M8
- Mount the hub on the customer's shaft
- Engage the disc

**Caution:** When installing and should the brake ever be dismantled, make sure that the friction disc heel is the right way round when the brake is re-assembled (see Fig.1).

- Engage the brake (line up the brake on the fixing thread)
- Tighten the 8 fixing screws CHc M10 (star sequence tightening, Cs: 25 Nm). Finish tightening with a torque, 35 Nm ( $\pm$ 10%)

**NOTE:** Secure the fixing screws (use a safety washer or thermoplastic liquid such as Loctite)

- Remove the 2 transport screws
- Make all the electrical connections

## 4 Maintenance

### 4.1 Adjusting the airgap

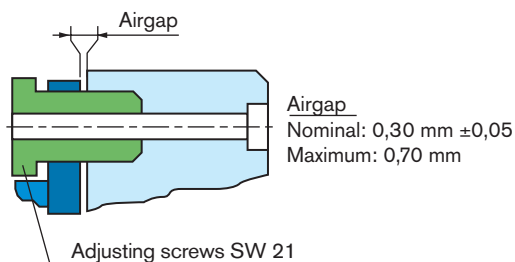


Check the airgap at each maintenance inspection.



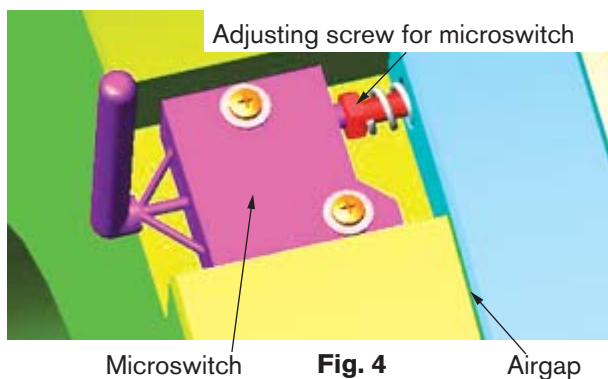
**Reminder:** This brake is intended for a static application as a safety brake. Any dynamic braking is restricted to emergency and test braking. Normal use will not lead to any noticeable wear on the lining. If for any reason it should be necessary to adjust the airgap, proceed as follows:

Loosen the attachment screws slightly. Adjust airgap (Fig. 3) with adjusting screws (hexagonal bar 21/flat) until they slightly exceed the nominal value (see Table 1). Tighten the screws (refer to point 3.3 Installation). Carry out a few successive draws and releases. Check the value of the airgap at several points. Repeat the whole process if necessary.



### 4.2 Adjusting the microswitch

Slide a wedge 0,15 mm thick close to the screw between the face of the magnet and the moving armature. Switch on the current and tighten the adjusting screw H M4 (7/flat) in contact with the microswitch until you reach the commutation point. Remove the wedge. Check that it functions correctly by a few successive draws and releases.

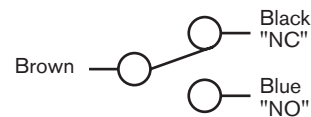


## Operation microswitch

Current range 10 mA min. to 100 mA max. at 24 VDC

Maximum electrical lifetime of the microswitch ensure only by switching under resistive load.

### Microswitch connection



When the coil is switched off, the microswitch is in the " NC " position.

## 5 Electrical connection

Brake **ERS VAR08 SZ 800/800** Warner Electric part numbers 1 12 106600, 1 12 106601 and 1 12 106664 operates on a direct current supply. Polarity does not affect the way the brake operates.

### 5.1 Recommendations importantes



All works on the electrical connections have to be made with power off.



Make sure that the nominal supply voltage is always maintained. A lack of power results in a reduction to the maximum airgap.

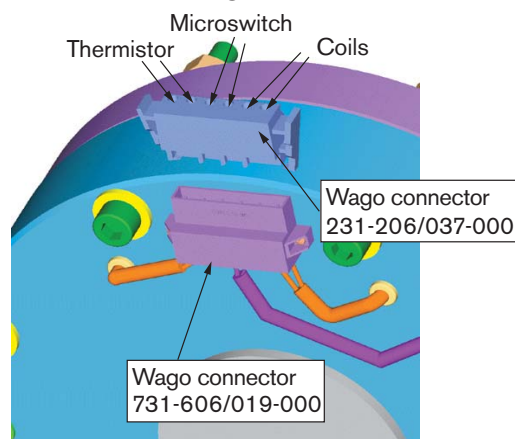


**Emergency braking :** for emergency braking the switching OFF must be connected on DC current side, in order to obtain short engaging time of the brake.

**Service braking :** for service braking, the switching OFF and the switching ON must be connected on AC current side, in order to obtain silent switching.

The connecting wires must be thick enough to help prevent sudden drops in voltage between the source and the brake. Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

### Wago connector on the brake acc. drawing 1 12 106601



## 6 Spare parts

Part	Part number
Friction disc	BT 2 12 095144
Microswitch NF (1 12 106600 and 1 12 106664)	BT 2 12 095145
Microswitch (1 12 106601)	BT 7 67 000421

## 7 Tools

Tools	Function
Airgap adjustment shims	Airgap and microswitch adjustment
Open jawed spanner 21 mm A/F	Airgap adjustment
Torque wrench (measurement range > 50 Nm) with hexagonal socket insert 8 mm A/F	Airgap adjustment
Open jawed spanner 7 mm A/F	Microswitch adjustment
Multimeter	Voltage checking
Hexagon wrench key 6 mm A/F	Transport screws

## 8 Troubleshooting and fault elimination

Troubleshooting		
Fault	Cause	Remedy
<b>Brake does not release</b>	<ul style="list-style-type: none"> <li>Starting voltage too low</li> <li>Power supply is interrupted</li> <li>Airgap too large</li> <li>Worn disc</li> <li>Coil is damaged</li> <li>Airgap too small</li> <li>Overexcitation time too short</li> </ul>	<ul style="list-style-type: none"> <li>Adjust starting voltage</li> <li>Reconnect power supply, check the adjustment of microswitch</li> <li>Re-adjust the airgap (chapter 4.1)</li> <li>Change disc and readjust the airgap</li> <li>Replace the brake</li> <li>Re-adjust the airgap (chapter 4.1)</li> <li>Increase overexcitation time</li> </ul>
<b>Brake does not brake</b>	<ul style="list-style-type: none"> <li>Voltage present at switch off position</li> <li>Grease on friction faces</li> </ul>	<ul style="list-style-type: none"> <li>Check the microswitch's adjustment and the customer's power supply</li> <li>Clean the friction faces, change the disc</li> </ul>
<b>Nuisance braking</b>	<ul style="list-style-type: none"> <li>Holding voltage too low</li> <li>Wrong information from microswitch</li> </ul>	<ul style="list-style-type: none"> <li>Adjust the holding voltage</li> <li>Re-adjust the microswitch</li> </ul>